NOTES ON SOME NEW AND INTERESTING BUTTERFLIES FROM INDIA AND BURMA

BY

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PART II

(*With one coloured plate and two black and white plates.*)
Continued from page 260 of this volume.

54. *Amathusia phidippus binghami*, Fruhst.

Several specimens were taken by Mr. G. Cooper in Mergui.

Amathusia p. binghami is from the Malay Peninsula and has not hitherto been recorded from within Indian limits. The only form till now known from Burma is *Amathusia phidippus fredericki*, Fruhst, from Pegu and the Karen Hills. The yellow apical and sub-marginal markings on the upperside of *A. p. fredericki* are absent in *binghami* and are replaced by paler markings of the ground colour. The underside is also somewhat different.

55. *Charaxes durnfordi merguia* sub-sp. n. Pl. V, Fig. 2, ♂.

Male : *Upperside* differs from the typical form of *Ch. durnfordi* Dist. from Sangei Ujong, Malay Peninsular, in having the basal areas of both wings much darker, as dark as in *Ch. durnfordi staudingeri*, Rothsch., from Java but of a warmer and redder brown, in *Ch. durnfordi*, Dist., the basal area is rather light ochreous brown. *Forewing*, inner row of white lunules as large as outer row as in *Ch. durnfordi*, Dist., but narrower, no white patch at the tornal angle. *Hind wing* : white terminal area rather narrower than the typical form and the inner edge even more curved than in that form, the brown discal area bordering the white marginal area powdered with violet grey forming distinct patches in interspaces 1–4, getting less distinct towards the costa.

Underside : very similar to the typical form but rather darker.

Expanse : ♂ 108 mm.

Several specimens were taken by Mr. G. Cooper in Mergui.

This race is much nearer to *Ch. durnfordi*, Dist., than to the race *Ch. durnfordi nicholi* which occurs further north in the Karen Hills.

The type is in my collection and a para type is in the British Museum.

56. *Apatura cooperi* sp. nov. Pl. II, Fig. 4, ♂

Male and female : *Upperside* both wings tawny fulvous. Forewing ; a broad blackish bar at apex of cell extending into interspaces 2 and 3, apical third blackish with two tawny spots in interspaces 2, and a small diffused blackish area near apex of interspace 1 ; pale spots from underside showing through in interspaces 3, 4 and 5 as spots paler than the fulvous ground colour. Hind wing basal and apical areas blackish, the discal band from underside showing through as a pale band and most distinct towards the costa ; a black spot in interspace 2 ; a sub-marginal row of blackish spots decreasing in size towards the dorsum followed by a blackish submarginal and terminal line. *Underside* tawny fulvous but paler than on the upperside and with no dark markings ; pale discal markings on both wings very similar to those in *Ap. sordida* M., with the exception that the white spot on the outer edge of the ocellus in interspace 2 of f.w. is missing, and the large white spot in interspace 3 is divided up into two small spots, the inner one being tinged with blue ; the discal spot below this in 2 being also tinged with blue. Female similar to male but paler and wings more rounded.

Expanse : ♂ 66 mm. ; ♀ 70 mm.

A very distinct species and nearest in style of markings to *Ap. sordida*, M. A large series was obtained in Maymyo, Northern Shan States, in September, October and November.

The types are in my collection and para types are in the British Museum.

57. *Apatura ulupi kalaurica* sub-sp. nov. Pl. II, Fig. 9, ♂

This race of *Ap. ulupi* is between *Ap. ulupi ulupi* Doherty and *Ap. ulupi florenciæ*, Tyt. ; the yellow markings of the male on the upperside are not so extensive as the former but more so than the latter ; the base of interspace 3 has a yellow spot, not present in the other two races ; base of interspace 2 is sometimes yellow as in *Ap. ulupi ulupi* and not dusky as in *florenciæ* ; black ocellus in interspace 2 of hindwing larger in *Ap. ulupi florenciæ* it is small and without the white dot. Underside very like *florenciæ* but with base of interspace 3 of forewing yellow and not dusky and the black ocellus in interspace 2 is usually white centred, in the other two races the white centre is usually wanting. Hindwing : the tornal ocellus is larger than in the other two races.

Female : very like *Ap. ulupi florenciæ* ♀ f. *albina* Tyt. with all the markings white. On the upperside it differs in having the base of interspace 3 of forewing filled with white, on the hind wing the submarginal white spots are very small and clearly defined and not large and diffused as in *albina*s Underside as in *albina*, except that the base of interspace 3 of forewing is white as on the upperside and the discal line on the hindwing is straight and not curved.

Expanse : ♂ 68 mm. ; ♀ 70 mm.

The type male was taken at Kalam, Southern Shan States, at 5,000 ft. and several males and females were taken near Maymyo, Northern Shan States, at 3,800 ft. in October.

The types are in my collection and para types are in the British Museum.

The following is the distribution of the collective species according to our present knowledge.

Ap. ulupi ulupi, Doh. Upper Assam ; Abor Hills ;
Ap. ulupi florenciæ, Tyt. Naga Hills.
Ap. ulupi kalaurica, Tyt. Northern and Southern Shan States.

58. *Adolias intermedia merguia* sub-sp. nov.

Male. Very like *A. dirtea judeitina* Fruhst., but can be at once distinguished from that form by the antennæ being entirely black and not red tipped. It differs from *A. intermedia* Tyt. in having the terminal margin on both wings broader. Several specimens were received from Mergui.

The ♂ type is in my collection.

59. *Dophla cooperi* sp. nov. Pl. V, Fig. 1, ♂

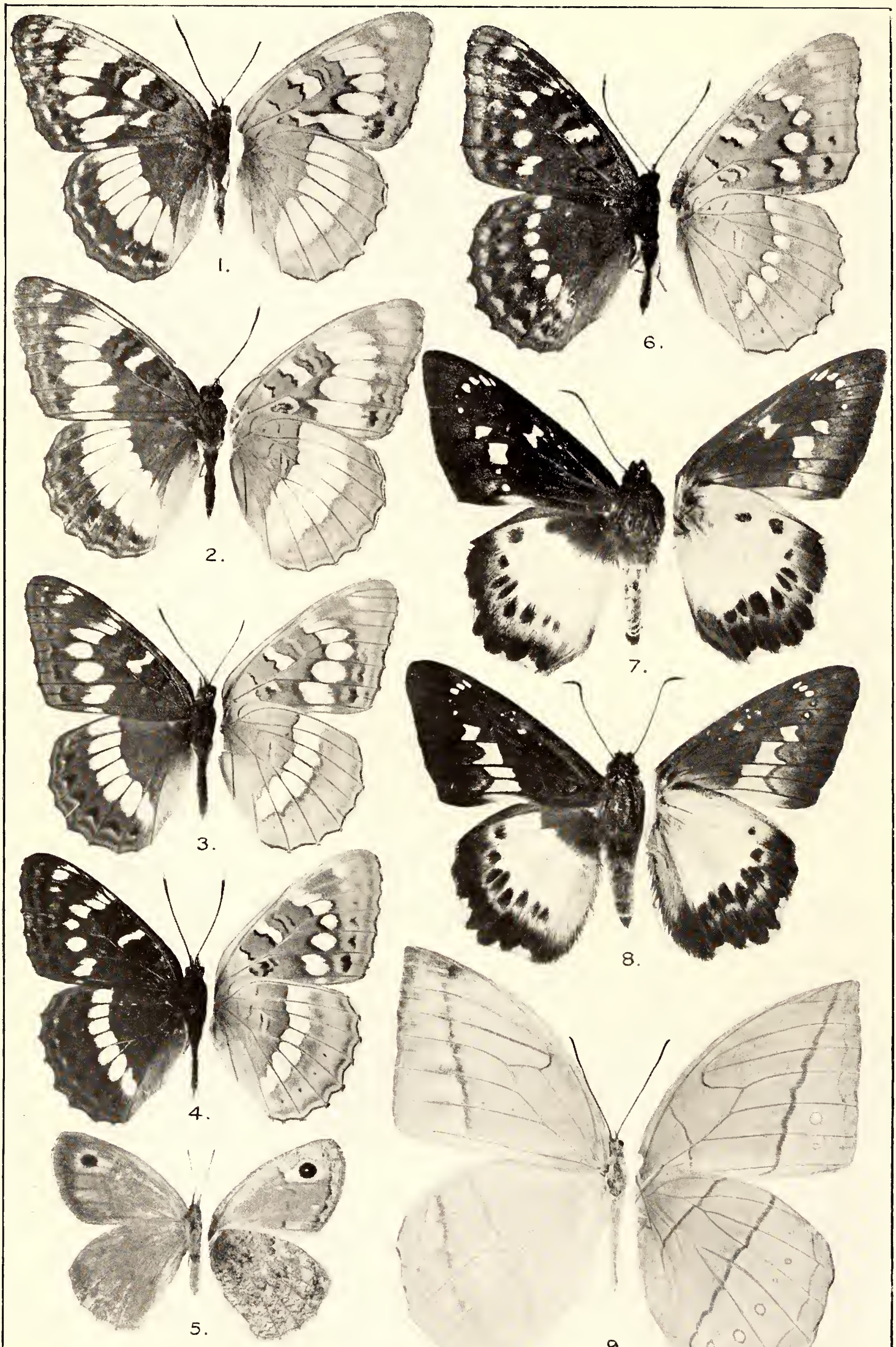
Very near to *Dophla iva* M. but differs as follows :—

Male and female. *Upperside*, a brighter and lighter green with all black markings broader and darker ; the white spot of the discal band in interspace 2 of *forewing* oval in shape and smaller than spot in interspace 3 ; in *D. iva* this spot is rectangular and much larger than spot in interspace 3 ; *hind wing*, a conjoined diffuse whitish spot in interspaces 6 and 7 and not as in *D. iva* which has 2 or 3 small separate and clearly defined white spots in interspaces 5–7. *Underside*, basal area of both wings greyish green, outer half blackish green ; all black markings broad and conspicuous ; *hind wing* with a conjoined diffuse spot in interspaces 6 and 7 as on upperside and not a row of 5 or 6 small clear separate spots in interspaces 2–7 as in *D. iva*.

Expanse : ♂ 108 mm. ; ♀ 124 mm.

The types a ♂ and ♀ were taken at Anisakan near Maymyo and at Maymyo itself in the Northern Shan States respectively ; the ♂ type is in the British Museum and the ♀ type taken in October is in my collection. Another ♂ was seen in September at Maymyo but I failed to net it.

PLATE III.



SOME NEW AND INTERESTING BUTTERFLIES FROM INDIA AND BURMA.

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Explanation of Plate III

Fig. 1. *Liminitis trivena pallida*, ♂, sub-sp. n.
,, 2. ,, ,, *trivena*, Moore, ♂.
,, 3. ,, ,, *ligyes*, Hewit, ♂.
,, 4. ,, *lepichini hydaspes*, Moore, ♂.
,, 5. *Maniola pulchra astorica*, ♀, sub-sp. n.
,, 6. *Liminitis lepichini gilgitica*, ♂, sub-sp. n.
,, 7. *Satarupa splendens*, *Tytler*, ♂.
,, 8. ,, *zulla*, *Tytler*, ♂.
,, 9. *Aemona lena haynei*, ♂, sub-sp. n.

Since writing the above Mr. G. Cooper has taken several males and females at Maymyo in September 1925. Some of his specimens have small black dot in interspaces 4, 5 and 6.

60. *Liminitis trivena* M. Pl. III, Fig. 2°.

The several races or species closely connected to *L. trivena* M. have been placed by various authors under the names of *trivena* M., *ligyes* Henit, and *hydaspes* M., but there has been considerable confusion and doubt as to which forms these names correctly apply ; moreover there are more than three forms and two of these will require new names. The forms flying at the extreme limits of its range, e.g. Turkistan and Garhwal, are very different looking insects, but whether they are distinct species or races of one species it is difficult to say.

Commencing from the extreme north-west the following forms occur :—

61. *L. lepichini* Ersch.

This form from Turkistan has the white spots small and macular and a conspicuous double row or red spots divided by black spots on the margin of both wings in both sexes.

62. *L. lepichini gilgitica*, Tyt. sub-sp. n. Pl. III, Fig. 6, ♂

This form occurs in Chitral, Gitgit, Astor, Chilas, Kargan Valley, Hazara and the Kishenganga Valley, Kashmir, on the Chilas Road from which place I have received a solitary specimen. It is very close to *L. lepichini* Ersch., but the red spots are smaller and darker. A single male was taken in the Liddar Valley, Kashmir, which may belong to this form but has the white spots much broader and almost as broad as in *L. ligyes* Hewit and broader than in *L. hydaspes* M. which is the local form flying in the Liddar Valley. Some of the forms in Chitral are very close to the next form *L. hydaspes* M.

63. *L. lepichini hydaspes* M. Pl. III, Fig. 4, ♂

This form occurs in Gurais and in the Scinde and Liddar Valleys, Kashmir, where it is common. Typically it differs from *L. lepichini gilgitica* Mihi in the red spots on both wings being much smaller and inconspicuous in the male and the inner row being obsolescent ; the white discal spots are macular as in *gilgitica* but rather larger, being 3 mm. wide against 2 mm. The female has the double row of red spots large and conspicuous as in *gilgitica*.

64. *L. trivena ligyes*, Hewit. Pl. III, Fig. 3, ♂

This form occurs in the Pir Panjal Range of Mountains, south of the Kashmir Valley ; it is between *L. hydaspes* and *L. trivena* M. in the width of the discal bands which are 4 mm. in width, and the discal bands are continuous and not macular as in *L. hydaspes*. The male has only one outer row of reddish spots ; the female has two rows of reddish spots but not so large and conspicuous as in *L. hydaspes* M.

65. *L. trivena trivena* N. Pl. III, Fig. 2, ♂

This form which occurs in Murree and adjoining country I take to be typical *L. trivena* M. as it agrees with Moore's original description and has ochreous red spots on the outer edge of the marginal black spots. The female often has an inner row of similar spots on the hind wing. The discal bands are 7 mm. in width.

66. *L. trivena pallida* sub-sp. n. Pl. III, Fig. 1, ♂

The form occurring in Simla differs from *L. trivena* M. from Murree as follows :—

The white bands on the upperside are as wide as in *trivena* M. but there is always a distinct white spot at the base of interspace 1 of the forewing (very seldom present in *trivena* M.) which is very often joined to the discal spot in that interspace, which it never does in *trivena* M. ; the marginal black spots are bordered outwardly by *ochreous white* spots instead of by *ochreous red* spots as in *trivena* M. On the underside the ground colour is uniformly yellow and has not any orange in the cell of the forewing or on the marginal area of both wings as in *L. trivena* M.

For convenience sake I have placed those forms which have the discal band on the hind wing composed of small macular spots as races of *L. lepichini* Ersch. and those forms which have this band of broad spots forming a continuous band as races of *L. trivena* M., as this division appears to form two natural groups ; but it is quite possible that all the forms are conspecific as treated by Stichel in Seitz's *Macrolepidoptera of the World*, vol. i.

67. *Neptis mackwoodi*, sp. nov. Pl. II, Fig. 1, ♂

Upperside : very like *N. ananta ochracea* Ev., but the yellow markings are somewhat different. Forewing with only two small apical spots instead of three or four large spots as in *N. ananta*. Hind wing ; a narrow suffused sub-basal yellow band placed nearer to the base than in *N. ananta*, a rather broad suffused yellow band, twice as broad as the sub-basal band, placed rather less than midway between the sub-basal band and the termen not reaching the costa, in *N. ananta* this band is narrower than the sub-basal band and nearer to the termen than to the sub-basal band. *Underside* forewing very similar to *N. ananta ochracea* Ev. but the apical spots reduced to one. Hind wing differs from *N. ananta ochracea* Ev. in the sub-basal band being nearer to the base as on upperside and in being very narrow and short only reaching to v. 6, followed closely by violet bands, as in *N. ananta ochracea* Ev. but nearer the base and the ground colour between these two bands suffused with violet giving the appearance of one broad violet band with small diffused reddish patches.

Expanse : ♂ 57 mm.

Habitat : Karen Hills.

Described from a single male taken in April. Its nearest ally is *N. ananta* M. and the group which has only one streak at the base of the costa on underside of hind wing.

68. *Neptis suffusa* sp. n. Pl. II, Fig. 2, ♂

Male. *Upperside* very similar to *N. ananta* but yellow spots in interspaces 2 and 5 of forewing larger and more conspicuous.

Underside : violet marking all lighter.

Forewing : sub-apical spots larger and spot in interspace 2 also larger than in *N. ananta* ; a violet speck at the end of the cell not shown in the figure and a row of three similar specks midway between this and the sub-apical spots.

Hind wing : basal area washed with pale violet almost as far as the discal band which is much wider than in *N. ananta* ; post discal violet bands wider and more distinct, the sub-marginal band being distinctly double and paler anteriorly.

Expanse : ♂ 57 mm.

Habitat : A single male was taken in the Bhamo Hills.

69. *Neptis zaida* Doubleday.

Type ♂ from Mussoorie is in the British Museum. There are two forms in Mussoorie :—

(*a*) Upperside with all markings pale yellow as in the type.

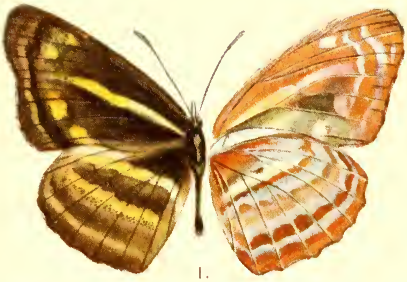
(*b*) Upperside with all markings almost pure white, *pallida* forma nov.

Three other closely allied forms occur within the Indian region :—

Neptis zaida bhutanica sub-sp. nov. from Sikkim and Bhutan.
Neptis zaida manipuriensis sub-sp. nov. from Manipur.
Neptis zaida drummondi sub-sp. nov. from S. Shan States.

70. *Neptis zaida bhutanica* sub-sp. nov. Pl. II, Fig. 5, ♂

Upperside : very like the typical form but the discal band on the hind wing is paler than the other markings and inclined to be whitish. *Underside :* ground colour yellowish brown and darker with all pale markings more distinct.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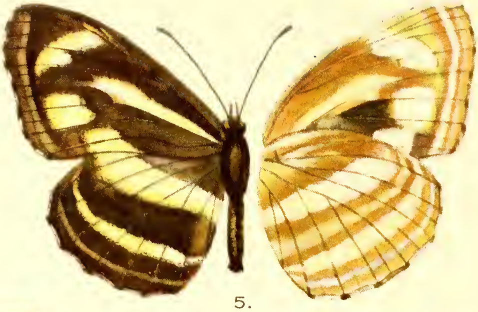
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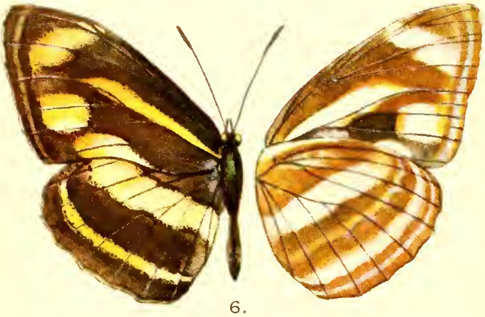
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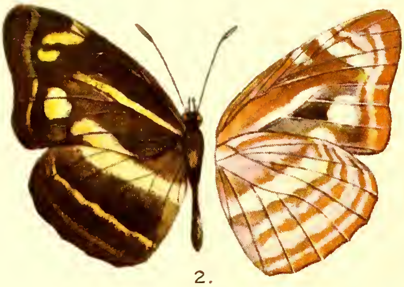
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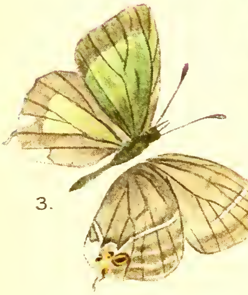
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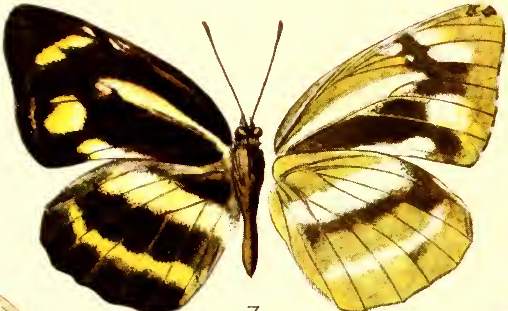
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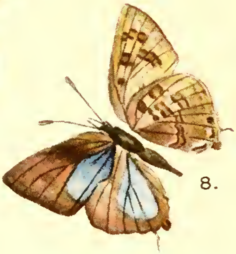
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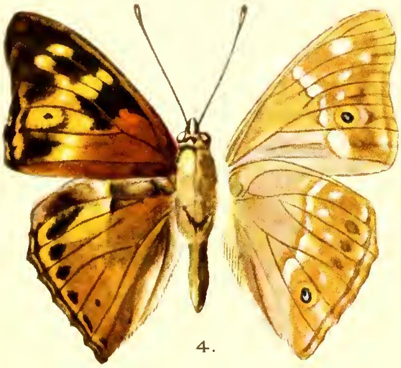
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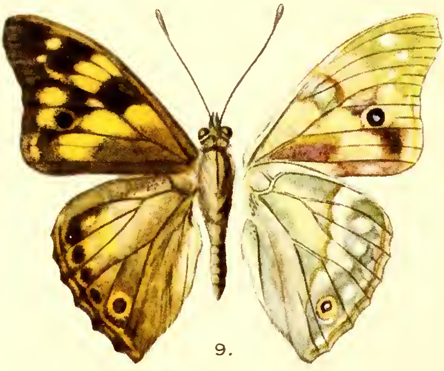
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Some New and Interesting Butterflies from India and Burma.

SOME NEW AND INTERESTING BUTTERFLIES FROM INDIA AND BURMA

Explanation of Plate II

Fig. 1. *Neptis mackwoodi*, ♂, sp. n.
,, 2. *Neptis suffusa*, ♂, sp. n.
,, 3. *Thecla doni*, Tytler, ♂.
,, 4. *Apatura cooperi*, ♂, sp. n.
,, 5. *Neptis zaida bhutanica*, ♂, sub-sp. n.
,, 6. ,, ,, *manipuriensis*, ♂, sub-sp. n.
,, 7. ,, ,, *drummondi*, ♂, sub-sp. n.
,, 8. *Virachola smilis smilis*, Hewit, ♂.
,, 9. *Apatura ulupi kalaurica*, ♂, sub-sp. n.

The type is from Darjeeling and there are specimens in the British Museum from that locality and from Bhutan.

Expanse : ♂ 68 mm.

The ♂ type is in my collection and para types of both sexes are in the British Museum.

71. *Neptis zaida manipuriensis* sub-sp. nov. Pl. II, Fig 6, ♂

Male. *Upperside* : as in the typical form but all pale markings deep orange yellow. *Underside :* as in *N. zaida bhutanica* Mihi but much darker and reddish brown with all pale markings darker (not pure white) and tinged with pale yellowish brown on the forewing and with violet brown on the hind wing.

The markings on the *Underside* are nearer to *N. zaida bhutanica* Mihi than to *N. zaida zaida* Doubleday.

Expanse : ♂ 68 mm.

Three males were taken on the Lengba River, Manipur, in April.

The male type is in my collection and a para type is in the British Museum.

72. *Neptis zaida drummondi* sub-sp. nov. Pl. II, Fig. 7, ♂

Male. *Upperside :* as in typical form but darker but not nearly so dark as in *N. zaida manipuriensis* Mihi. *Underside :* as in typical form from Mussoorie but darker.

Expanse : ♂, 68 mm.

Several specimens were taken by Captain Drummond at Loimwe, Southern Shan States ; in April at about 4,500′.

The male type is in my collection.

73. *Melitæa saxitalis lunulata* Stdgr.

A single female which agrees with specimens of *lunulata* Stdgr. from Issykkul and Tashkent in the British Museum was taken in Misgar, Hunza in August. This species has not previously been recorded from within Indian limits.

74. *Melitaea balba balbina* sub-sp. n.

Smaller than *M. balba* Ev. and much paler on both sides.

Several specimens of both sexes were taken on the Shandur Pass between Gilgit and Chitral at 12,200′ in July. I have *M. balba* Ev. from Chitral taken at 11,000′ and there are specimens in the British Museum ; these specimens are very constant in markings and do not intergrade with *balbina*. The two forms may be races flying at different altitudes.

The types are in my collection and paratypes are in the British Museum.

75. *Lycæna florenciæ*, sp. n. Pl. I, Fig. 4

This very beautiful and distinct form appears to be allied to *Ly. isaurica*, Stdgr. from Syria, but the wings above are of a brighter shining blue without a grey wash : below all the markings are similar but the spots on the hind wing are larger and brighter, the red marginal spots being very conspicuous.

Expanse : ♂ 30 mm.

Two males were taken by Lieut.-Colonel Lorimer on the Baroghil Pass at the extreme north-east corner of Chitral.

The type is in my collection.

76. *Lycæna baroghila*, sp. n. Pl. I, Fig. 1, ♀

Male. *Upperside* both wings ashy brown with no markings. *Underside* very similar to *Ly. loewii sanoga* Evans.

Female. *Upperside* very like the male, but both wings have a sprinkling of blue scales in the basal area and the hind wing has a row of dark spots edged with bluish grey on the terminal margin.

Expanse : ♂ 33 mm., ♀ 35 mm.

A male and female were taken on the Baroghil Pass, North-East Chitral, in July by Lieut.-Colonel Lorimer.

The types are in my collection.

77. *Lycæna christophi lesliei* sub-sp. nov. Pl. I, Fig. 2, ♂

Ly. samudra M. was described from specimens from Skardo and the types are in the British Museum ; there are also specimens from Hunza, Ladak and Kiris.

Four males and two females from Chitral in the British Museum are very distinct and appear to be a well marked race of *Ly. chrystophi* of which hitherto *Ly. samudra* has been the only representative recorded from within Indian limits. On the upperside there is hardly any difference but on the underside *all* the black discal spots on the f.w. are much larger and strikingly conspicuous.

The types are in the British Museum and originally came out of the collection of G. A. Leslie and W. H. Evans.

Specimens from Gilgit are midway between typical *samudra* M. and *lesliei* Mihi, specimens received from Ladak are typical *samudra*.

♀♀ in the British Museum from Kiris on the upperside have much more blue than the ♀♀ of *samudra* from Skardo and ♀♀ of *lesliei* from Chitral and are probably a distinct race.

A single ♀ from Hunza is very similar to the ♀♀ of the Kiris form and may possibly be the same race but there is not sufficient material to say for certain.

78. *Lycæna astorica*. sp. nov. Pl. I, Fig. 3, ♀

Male and female. Upper and undersides alike. *Upperside :* brown with a black streak at the end of the cell of forewing.

Underside : very similar to *Ly. iris ashretha* Ev., but the f.w. is tinged with brown, in some specimens from Gilgit yellowish brown ; the discal spots on *f.w.* are evenly curved and the spots in 2 and 3 are not inwardly thrown out of line as in *ashretha* ; on the *h.w.* the black spots in 5, 6 and 7 are in line and sloping back towards the base at a greater angle than the same spots do in *ashretha*.

Expanse : ♂ 31 mm.; ♀ 32 mm.

The ♂ type is from Gudhai in Astor and the ♀ type from Haitar nala in Gilgit. Many of the specimens from Gilgit are larger than the Astor forms. The types are in my collection and para types are in the British Museum.

79. *Lycæna metallica*, de N.

The type is from Lahoul.

There are specimens in the British Museum from Kulu, Kokser and the Baralacha Pass, north of Lahoul leading into Rupshu which are typical.

Ly. metallica, deN is an insect with a broad black border to both wings 4 mm. wide and with the basal two-thirds blue tinged with green.

Specimens of females in the British Mesuem are completely brown with no blue at the base.

80. *Lycæna metallica chitralensis* sub-sp. nov. Pl. I, Fig. 6, ♂

This very distinct form of which there is a good series in the British Museum taken by Maj. Wall in Chitral, probably in Southern Chitral as specimens from the Shandur Pass in North-East Chitral belong to the race below *L. metallica gilgitica* Mihi, differs from *metallica* de N. as follows:—The black border is only 2·5 mm. in width and the blue is a bright purplish blue with no greenish tinge.

The females are sometimes completely brown above and sometimes have little blue at the base ; one ♀ has indications of red spots.

81. *Lycæna metallica gilgitica* sub-sp. nov. Pl. I, Fig. 7, ♂

This form of *metallica* is very like *Ly. metallica chitralensis* in the width of the black border but the blue is of a different shade being purplish and darker and not so bright and is nearer to the form *Ly. metallica chrysopis* Gr. Gr., which occurs in the Hindu Kush Mountains and in the Pamirs, except that *chrysopis* has a very narrow black border to both wings the width being only 1·5 to 2 mm., in *gilgitica* it is 2·5 mm. The females are completely brown.

Habitat. Shandur and Baroghil Passes in Chitral ; Gilgit (Type) ; Astor.

82. *Lycaena galathea chitralica* Ev.

Several typical males were taken in Chilas one *male* looks rather like a *female* form and has the blue on upperside rather restricted and with faint red spots on the terminal margin of the hind wings. Mr. Tams of the British Museum kindly examined the specimen for me under a microscope and it proved to be a *male*.

83. *Lycæna galathea depreei* sub-sp. nov. Pl. I, Fig. 5, ♂

Several males taken by Colonel Depree in Dras differ from typical *galathea* in their smaller size and darker blue colouration on the upper side of the male and in the darker grey area on the *under* forewing. The black border is usually narrow but in some specimens it is broad ; in one male it is 3 mm. in width.

Expanse : ♂ 30 mm.

84. *Lycæne orbitulus jaloka* M.

Mr. de Nicéville correctly described the three forms that were then known and gave their geographical distribution, but since then various authors have rather confused matters by placing *Ly. ellisi* Marshall as a synonym of *leela* de N. and by mixing up the localities from which the various geographical forms come.

The ♂ type of *L. jaloka*, M., a worn specimen, is in the British Museum and is labelled Kashmir ; the distribution of *jaloka* is given as Rajdiangan Pass, Sursungun and Stackpida Passes, Baitul, but the exact locality where the ♂ type was taken is not given.

On the *underside* of the ♂ type f.w. there are traces of obsolescent black spots within the white spots ; on the hind wing the basal dark area contains only one *distinct* white spot at the end of the cell, the *discal row* and *costal white* spots are hardly visible and are merged into the marginal pale area. de Nicéville mentions this point as distinguishing *jaloka* from *leela* and *ellisi*. In both the latter sub-species, these white spots are conspicuous, and the costal ones enter the dark basal area.

In specimens from the Liddar Valley the forewing on the underside is almost white and devoid of all markings.

85. *Lycæna orbitulus ellisi* Marsh.

This is a very distinct form from the Sanch Pass Panji and there are specimens in the British Museum from that locality and from Dugi and Kukti (presumably in Pangi), the specimen from the latter two localities only differ from the one from the Sanch Pass in their slightly larger size. On the upperside the spots are pure white and not bluish white as in *jaloka* and the white spot at the end of the cell on upperside of the forewing bears scarcely any trace of black ; in *jaloka* this spot is distinctly black and narrowly white edged. On the *underside* all the spot are white and well marked and the basal area of the hind wing is very similar to that of *jaloka*, the white spots only being more conspicuous.

Swinhoe's figure of the second form of ♂ *ellisi* of which the original specimen is in the British Museum agrees exactly with the figure of de Nicéville's *leela* except that the spot at the end of cell in de Nicéville's figure on the *underside* of the forewing is shown as pure white but this is probably an error as in de Nicéville's description he distinctly says, ' *all the spots are black centred* '.

There is no doubt in my mind that this second form of *ellisi* is nothing but de Nicéville's *leela*.

86. *Lycæna orbitulus astorica* sub-sp. nov. Pl. I, Fig. 8

Three males and a female were taken in the Rupal Valley, Astor, which differ from typical *Ly. orbitulus leela* in the absence of the pale spots on the upperside of the male and in the pale spots in the female being small and rather indistinct.

A pair were also taken by Major Stockley on the Stacksby Pass, Gurais.

The types are in my collection.

87. *Lycæna orbitulus leela* de N.

The type ♀ was taken on the Dras side of the Zogi La Pass and ♀♀ were taken on the Manika Pass, Ladak and Fotu La, Ladak.

On the *upperside* the pale bluish spot at the end of the cell forewing is black centred, in *ellisi* it is practically white with the black centre reduced to a point. On the *underside* the white spots on the forewing are conspicuously black centred and on the hind wing the basal area is dark yellowish brown with a large discal white spot and two distinct white costal spots entering this area ; the discal row of white spots are distinct and sometimes are outwardly defined by yellowish brown.

The following appears to be the geographical distribution of the various forms :—

Ly. orbitulus walli, Evans.	... Gilgit, Chitral.
Ly. orbitulus astorica, Tyt.	.. Astor, Gurais.
Ly. orbitulus leela, deN. ...	... Deosai, Dras and Ladak.
Ly. orbitulus jaloka, M. ...	... Kashmir, Tragbal, Scinde Valley, Liddar Valley, Baitul.
Ly. orbitulus ellisi, Marsh.	... Pangi.

88. *Polyommatus sarta rupala* sub-sp. nov. Pl. I, Fig. 14, ♂ ; 15, ♀

Male : *Upperside* : vary similar to *P. sarta sartoides* Swinhoe but the blue is not so extensive and is more powdery in appearance both wings have a dark marginal area 3 mm. in width and much wider than is *sartoides* Sw. Underside similar to *sartoides* Sw.

Female : differs from typical *sartoides* ♀ in red spots on h.w. not being so conspicuous and in the f.w. all red spots being obsolescent, sometimes those in 1 and 2 being faintly visible.

Expanse : ♂ 54 mm. ; ♀ 56 mm.

Habitat : Rupal Valley, Astor, where a fairly good series was taken in July and August.

89. *Polyommatus sarta gooraisica* sub-sp. n.

Three males and four females from Gurais in the British Museum which were mixed up with specimens of *P. devanica* M. appear to be a *sarta* form. The chief difference according to Col. W. H. Evans between *devanica* and *sarta* forms is the position of the spots on the underside of the hind wing in interspaces 5, 6 and 7. In *devanica* forms the spot in 6 is as a rule nearer to spot in 7 than to the spot in 5 and is placed inwardly to a straight line between the two outer spots, whereas in *sarta* forms the middle spot in 6 is about half-way and is outwardly placed to a straight line between the two outer spots, thus :—

devanica forms	*sarta* forms
6°	7 °
7°	6°
5°	5°

The specimens above referred to are different to any other *sarta* forms I have seen and appear to be a good race of that species.

On the upperside of both wings the blue is much more restricted than in the form *P. sarta rupala* Mihi.

Expanse : ♂ 32 mm. ; ♀ 34 mm.

Habitat : Gurais.

The types are in the British Museum.

90. *Polyommatus gigantea gilgitica* sub-sp. n. Pl. I, Fig. 16, ♂

The race of *P. gigantea* Gr. Gr. from Gilgit differs from the typical form from the mountains of Hissar, Central Asia, in the upperside of the male being of a darker and brighter blue and not a silvery blue with the veins lighter and silvery in some lights. Underside : very similar to the typical form.

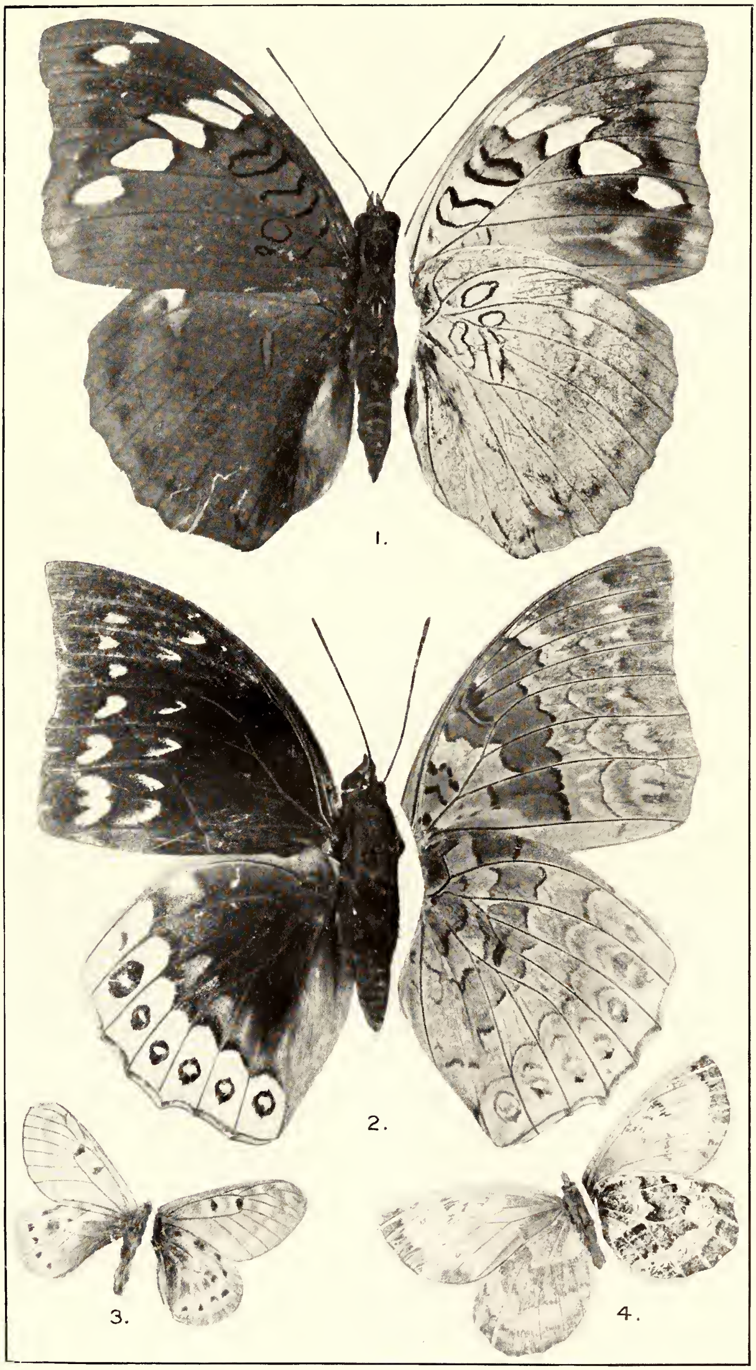
Two males were taken in Yasin, Gilgit, in July.

The form of *polyommatus* recorded by Colonel W. H. Evans in the *Journal, Bombay Natural History Society*, vol. xxx, 1925, under the name of *P. iolas* is probably the insect now described. *P. iolas* from Europe and Asia Minor is a much duller blue above than *P. gigantea* Gr. Gr. and has a blue female

SOME NEW AND INTERESTING BUTTERFLIES FROM INDIA AND BURMA

Explanation of Plate V

Fig. 1. *Dophla cooperi*, ♂, sp. n.
,, 2. *Charaxes durnfordi merguia*, ♂, sub-sp. n.
,, 3. *Parnassius acco punctata*, ♀, sub-sp. n.
,, 4. *Oeneis garhwalica*, ♀, sp. n.



Some New and Interesting Butterflies from India and Burma.

with the costal and terminal borders heavily marked with black ; on the underside hind wing the row of discal spots is continuous and not broken in interspace 2. In *P. gigantea* Gr. Gr. the males above are bright shining blue and the female is pale brown with only a very slight dusting of blue scales towards the base of both wings ; in some specimens of an unnamed race from Ferghana these blue scales are entirely wanting. On the underside hind wing the discal row of spots is completely broken in interspace 2 by the spot in that interspace being placed markedly inwards and so completely out of line.

91. *Orthomiella putaoica* sub-sp. n., Pl. I, Fig. 20, ♂

Male ; Upperside: both wings rich brown with the costal third of the hind wing bright shining light purple, the lower edge being straight and sharply defined. Underside markings similar to *O. pontis* El., but much darker.

Expanse : 23 mm.

Three males were taken in Putao at the extreme north-east corner of Burma in March and April.

This insect appears to be closely allied to *O. rovorea* Fruhst from the Chin Hills and which I only know from the description in Seitz's *Macrolepidoptera of the World*. It differs from the description of *rovorea* in having the *anterior third* only of the hind wing bright shining light purple whereas *roverea* is described as having '*a sharply defined light violet reflection on the anterior half of the hind wing*' ; the band on the underside of forewing is quite distinct and not obsolescent as in *rovorea* and the band on the hind wing is also broad and distinct and not narrow as in *rovorea*. *O. putaoica* flies with *O. pontis* the two forms being taken together, and therefore it cannot be considered as a race of *O. pontis*.

The type is in my collection and a para type is in the British Museum.

92. *Niphanda marcia* Fawcett.

This form has been omitted by Colonel Evans in his 'List of Butterflies'.

The females are brown and very like the females of *N. cymbia* de N. but are rather smaller and darker.

On the underside the female can be distinguished from the same sex of *N. cymbia* by having a *complete* row of large black marginal spots on the hind wing ; in *N. cymbia* female in addition to the double tornal spot on the hind wing there are only *two* other spots on the margin which are black the remainder being greyish or obsolescent.

The males of *N. marcia* are according Bingham and Swinhoe are lighter in colour on the upperside but I have not seen a specimen.

Three females were caught at Sinha, S. Shan States, at 3,800′ in July. They agree with a single female in the British Museum.

93. *Niphanda tessellata*, M.

The females of this form can at once be distinguished from those of *N. cymbia* and *N. marcia* by being blue above and not brown. On the *underside* hind wing the female differs from the females of the above forms in only having *one terminal black* spot in addition to the tornal double spot, the remaining spots being greyish or obsolescent.

The distribution of the genus *Niphanda* in India appears to be

N. cymbia, de N.	Sikkim-Manipur.
N. tessellata, M.	N. Shan States, S. Shan States.
N. marcia, Fawcett.	S. Shan States, Mergui.

94. *Thecla doni*, Tytler, Pl. II, Fig. 3, ♂

I take this opportunity to figure the male type specimen of this insect which was described in the *Journal*, *Bombay Natural History Society*, vol. xxiv, p. 129, 1915, but which was received too late to be figured.

95. *Horsfeldia anita gigantea* sub-sp. nov.

Both the dry season and wet season forms of the race of *H. anita*, Hewit., which occurs in Manipur, are very much larger than specimens from the N. Shan States, Upper Burma and from specimens from further south which agree with the type of *H. anita* Hewit, from Perak.

On the upper side the purple colour is brighter and the black terminal border is much broader being 3 mm. against 1 mm. of typical *H. anita* Hewit.

On the underside the colour is a good deal darker.

Expanse : ♂♂ d.s.f. 54 mm. ; w.s.f. 56 mm.
♀♀ d.s.f. 58 mm. ; w.s.f. 62 mm.

15 ♂♂ and 1 ♀ of the d.s.f. were taken in the Manipur Valley and at Sebong on the borders of Burma in April and June and 5 ♂♂ and 1 ♀ of the w.s.f. were taken at the same places in July and August.

The types are in my own collection and ♂ para types of both seasonal forms in the British Museum collection.

96. *Amblypodia camdeo sebonga* sub-sp. nov.

The form of *A. camdeo* from Sebong on the Burmese border of Manipur differs considerably from the *typical* form and is between that form and *A. camdeo varro* Fruhst., from Burma.

Male. *Upperside* as in the typical form but rather darker. *Underside*, the dark spots encircled with white are much paler and *brown* and not *blackish brown* as in the typical form and which contrast so sharply with the pale ground colour of the wings ; on the *hind wing* the colour of the spots in many cases is no deeper than the ground colour of the rest wing.

In a *camdeo varro* the colour of the spots is also brown and not blackish brown but a good deal darker than the ground colour of the wings and the colour of the *upperside* of the wings is darker than in Manipur form.

Expanse : ♂♂ 49-53 mm.

Described from five males taken in April and June.

The type is in my collection and a paratype is in the British Museum collection.

97. *Amblypodia suffusa atarana* sub-sp. nov., Pl. I., Fig. 13, ♀

The form of *A. suffusa* Tyt. obtained by Mr. G. Cooper in the Ataran Valley, Burma, is very different from the typical form from Manipur and appears to be a well-marked race.

Female : *Upperside,* the blue colouration much bluer and vivid, very much the same as in ♀ *A. mirabella*————, and not purplish blue as in the typical form of *A. suffusa* ; the blue is also very much more extended on both wings almost reaching the termen on the hind wing.

Underside : ground colour and markings as in *A. suffusa* Tyt.

Described from a female specimen presented to me by Mr. G. Cooper who has other specimens from the same locality.

The ♀ type is in my collection.

98. *Amblypodia maymyoia* sp. nov.

Male : *Upperside* dark dull purplish blue very similar to *A. birmana* M.; a *broad* black terminal border, 2·5 mm., continued well along the costa on forewing and to base of costa on the hind wing. *Underside* markings somewhat similar to *A. aberrans*, de N., but ground colour darker and the discal band on forewing not completely disjointed as in *aberrans* but merely out of line.

Female : *Upperside* somewhat like *A. aberrans*, de N., but *much* brighter blue and with only the base of interspace 4 of forewing white. *Underside* as in the male.

Expanse : ♂ 37 mm.; ♀ 37 mm.

Two males were taken in Maymyo, Upper Burma, at 3,500′ in April and a female at Sinho, S. Shan States, at 3,800′ in July.

The types are in my collection and a ♂ paratype is in the British Museum.

99. *Virachola dohertyi*, Tytler, Pl. I, Fig. 17, ♂

I take this opportunity to figure the male type specimen of this very rare and distinct looking insect which was described in the *Journal*, *Bombay Natural History Society*, vol. xxiv, p. 138, 1915 and still remains unique.

100. *Virachola smilis nicévillei* sub-sp. nov.

=*V. smiles* de N., Nee Hewit.

Hewitson described his *Virachola smilis* from a ♀ specimen and gave the vague term of ' East India ' for its locality. His insect may have come from South Burma as Mr. G. Cooper has taken it there.

de Nicéville knew this insect only from Hewitson's description and figure, and on receiving a ♀ form from the Andamans considered it to be Hewitson's insect and as Hewitson's description was not very full he described the Andaman insect in greater detail and figured it in the Butterflies from India, Burma and Ceylon, vol. iii.

According to this description and figure the Andaman form is not typical and differs from *smilis* Hewit, as follows :

Underside. Forewing ; the discal band is only partially disjointed, the two portions touching one another ; in *smilis* the two portions are completely disjointed and the two portions do not touch. Hind wing : there is no spot in the middle of the cell ; in Hewitson's figure a spot is shown and in my male this spot is broken in the middle and becomes a double spot. deNicéville's insect appears to be an insular race of Hewitson's *smilis* and I propose the name of *nicévillei* for it.

101. *Virachola smilis smilis*, Hewit., Pl. II, Fig. 8, ♂

I take this opportunity to figure the male of Hewitson's insect as his figure of the female type is probably not accessible to most collectors in India.

Expanse : ♂ 38 mm. ; ♂ 46 mm. (according to Hewitson's figure).

Several males were caught by Mr. G. Cooper on Metharan Hill, S. Burma.

The ♂ type is in my collection.

102. *Pseudochliarsa virgo* Elwes.

In the *Journal, Bombay Natural History Society*, vol. xxiv, p. 139, I desribed as a new species a male and two females under the name of *P. virgoids* and also recorded the capture of two insects which I considered to be *S. virgo* as they agreed with de Nicéville's description and figure of the ♂ of that inset.—Elwes' type specimen was a female. The two insects considered to be *S. virgo* however had no secondary sex marks as in the *genus sinthusa* and appeared to be females, and I expressed my doubt as to correctness of my identification and as to the insect described by de Nicéville being the true male of *S. virgo* El. or indeed a male at all and considered it possible though highly improbable that the description was taken from a female insect ; and that my *P. virgoides* might turn out to *S. virgo* El. and that de Nicéville's male and my two insects might require a new name.

On proceeding to England J compared my five insects with Elwes' ♂ type of *S. virgo* in the British Museum and found my two females *P. virgoides* agreed in all respects and were really *S. virgo.* Above the type specimen there were several other female specimens of *S. virgo* and amongst them was a male which had been overlooked. This male agreed exactly with my ♂ *P. virgoides ;* there is no doubt in my mind that these males are the true males of *S. virgo* El. and so the name of *virgoides* must sink as a synonym.

The question then arose as to the correct name of the ♂ insect described by de Nicéville and my two insects which agreed with his description and figure.

On my return to India the two insects in the de Nicéville's collection in the Calcutta Museum considered by him to be males of *S. virgo* Elwes were obtained on loan by Col. W. H. Evans and myself. On examination these insects proved to be females and an egg was extracted from one. These were the only two blue specimens in the de Nicéville collection which could be considered males, the third specimen over the label of *S. virgo* being a whitish insect and the true ♀ of Elwes' insect. If de Nicéville really described his male insect it is not in the Calcutta Museum now and until a male is discovered agreeing with his blue females it must be supposed that he wrongly described his male from a female.

In any case the two females in the Calcutta Museum and the two blue insects in my collection which also proved to be females require a new name ; but until a male is discovered agreeing with these females it may be as well to treat this form, for the present, as a ♀ variety of *virgo*, El. and I propose the name ♀ *f. confusa. nov.*

The type and para type are in my collection.

103. *Rapala rubida* n. n. *prorosacea* Tyt. n., Plate I, Fig. 18, ♂

In the *Journal*, *Bombay Natural History Society*, vol. xxiv, p. 138 of 1915 I described this species under the name of *Virachola rosacea*. The insect appears to be an aberrant form in that, in general appearance, the upperside looks likea *Rapala* but on the underside of the hind wing the style of markings is closer to a *Virachola* ; and the sex mark on the upper hind wing is also like that of a *Virachola*. The venation however is nearer to *Rapala* than to *Virachola* and it is better to consider it as *Rapala* form rather than a *Virachola*. The name of *rosascea* however is preoccupied, and was given by de Nicéville to quite a different form of *Rapala* and consequently the name of *rosacea* for this insect will have to fall and a new name substituted. I propose the name *rubida*.

104. *Satarupa splendens*, Tytler Pl. III, Fig. 7, ♂

This butterfly was described in the *Journal*, *Bombay Natural History Society*, vol. xxiv, p. 147, 1915. I take this opportunity to figure the male.

105. *Satarupa zulla* Tytler, Pl. III, Fig. 8, ♂

Two males have since been received from Sikkim taken in July and August. I take this opportunity to figure the male of this species which was described in the *Journal of the Bombay Natural History Society*, vol. xxiv, p. 148, 1915.